UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,563	03/31/2004	Zhibin Wang	BEAS-01513US0	6910

23910   7590   05/12/2008
FLIESLER MEYER LLP
650 CALIFORNIA STREET
14TH FLOOR
SAN FRANCISCO, CA 94108

EXAMINER
MITCHELL, JASON D

ART UNIT	PAPER NUMBER
2193	

MAIL DATE	DELIVERY MODE
05/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/814,563	WANG ET AL.
	Examiner	Art Unit	
	Jason Mitchell	2193	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 April 2008</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-4,6-11,13-18 and 20-24</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-4,6-11,13-18 and 20-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>4/1/08</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____

DETAILED ACTION

This action is in response to a request for continued examination filed on 4/1/08.

Claims 1-4, 6-11, 13-18 and 20-24 are pending in this application.

Response to Arguments

Applicant's arguments filed 4/1/08 have been fully considered but they are not persuasive.

In the first full par. on pg. 11, the applicants state:

> It appears from the above description that, in McNeely, a test case is used to test network devices. A test case selected contains information identifying one or more devices. Any device not contained within the test case must be added to the current test case, or a different test case has to be chosen that contains that device. Consequently, it is the test operator who directs the system to load the appropriate libraries that are associated with the particular devices under test since the system will not load these libraries unless the test operator has included these devices in the test case. McNeely also appears to disclose that while some devices are command-line based, other devices may be GUI-based, and that these GUI-based devices can be similarly tested if a suitable GUI tester is added via a new package.

> The applicants have not made clear how this is asserted to distinguish McNeely from the claims. Further it is noted that the claims do not preclude a test script writer "identifying one or more devices" with in a test script. The claims require that the "interpretive engine ... determines which software test tool the user is currently using". McNeely's 'interpretive engine' performs this function by reading the identification of a test tool (i.e. a device and its associated command interface) included in the test script.

Starting in the last full par. on pg. 11, the applicants state:

However, Applicant respectfully submits that, in both McNeely and Dubovsky, it appears the systems disclosed therein are directed toward applying similar tests to different test subjects, i.e. to different network devices, different software projects, or different components of a software project. To accomplish this task, both McNeely and Dubovsky appear to disclose scripts that can be reused for each new test subject, to provide an overall means of using a testing script between a somewhat fixed testing environment and different test subjects.

In contrast, the embodiment of Claim 1 provides a means of using a testing script between different testing environments. As described above, while automated test development systems, suites and tools have been developed, the typical approach of such automated test development tools requires that the operator have knowledge not just of the test-tool-specific scripting language and environment, but also the specific features and idioms of the vendor-specific tool environment. The test-tool-specific code produced by action recorders is often relevant only to the specific parameters and environment(s) where the recorder was employed.

The examiner respectfully disagrees. Initially it is noted that the claims make no mention of "testing environments" and thus it is unclear exactly which limitation(s) the applicants believe distinguish over the prior art references in this way. Further, in addition to disclosing reusable test scripts as required by the claims (i.e. "wherein the test case can be ... reused as necessary"), McNeely discloses applying a single test script to various devices (e.g. different test subjects) which have different testing environments (e.g. col. 15, lines 36-40 "the appropriate communication interface packages associated with each DUT ... accesses DUT software library 358 and directs the appropriate software loads to each DUT (ST3)"). Finally, it is noted that McNeely's system "enables an operator with minimal knowledge of the devices under test and their respective administrative interface protocols to perform a complex battery of integration and system performance tests" (see e.g. col. 8, lines 2-5) and thus also seems to provide the advantage the applicants assert is achieved by the claimed system (see the 2nd full par. on pg. 12).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 6-11, 13-18 and 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 8 and 15 recite the limitation "the plurality of different software test tools" in the last paragraph of each claim. There is insufficient antecedent basis for this limitation in the claim. The closest antecedent basis for this term "one or more different software test tools" recited, for example, in the 4th paragraph of claim 1. It is noted that 'one or more' is distinct from 'a plurality' in that 'a plurality' of requires at least two items, while 'one or more' can be met by a single item. For the purposes of this examination the examiner will address the claims as directed to the narrower "plurality of different software test tools".

Claims 2-4, 6-7, 9-11, 13-14, 16-18 and 20-24 variously depend from claims 1, 8 and 15 and are rejected for the same reasons.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-11, 13-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7,117,411 to McNeely et al. (McNeely) in view of US 2003/0055836 to Dubovsky (Dubovsky).

Regarding Claims 1, 8 and 15: McNeely discloses a system that provides a generic user interface testing framework, comprising:

a computer including a computer readable medium, and a processor operating thereon (Fig. 1);

one or more different software test tools that can be invoked by a user to perform testing operations on a software application (col. 13, lines 49-52 "a plurality of device-specific test case packages 404"; col. 13, lines 47-49 "a suitable GUI tester is added via a new package"), wherein each of the one or more different software test tools understand their own tool-specific scripting language (col. 15, lines 54-60 "tool command language command (ST6)");

a test case input file stored on the computer readable medium, that contains a plurality of generic interface commands that are abstractions independent of any tool-specific scripting language (col. 15, lines 47-52 "an abstract command language command (ST4)"), wherein the test case input file can be edited and reused as necessary by the user to specify different generic interface commands for testing in any of the different software test tools (col. 4, lines 30-34 "test case and test plan editor"); and

an interpretive engine that executes on the computer, and that includes a plurality of dynamically loaded libraries corresponding to the plurality of different software test tools (col. 13, lines 49-52 "a plurality of device-specific test case packages 404), and including a library for each of the one or more different software test tools (col. 15, lines 36-40 "the appropriate communication interface packages associated with each DUT"), wherein the interpretive engine receives the generic interface commands defined in the test case input file, determines which software test tool the user is currently using (col. 15, lines 35-36 "identifies one or more of the devices under test"), loads required libraries to map the generic interface commands to corresponding tool-specific testing operations (col. 15, lines 47-52 "based on the mapping provided by the appropriate communication interface package, interprets the command within the context of the specific DUT to which the command refers"), uses the software test tool to perform the testing operations on the software application's graphical user interface including translating the generic interface commands to tool-specific commands (col. 15, lines 54-60 "produce an equivalent tool command language command"; col. 13, lines 47-49 "Communication with GUI-based devices can occur ... if a suitable GUI tester is added via a new package"), and reports to the user the success or failure of the testing operations (col. 3, lines 53-56 "executing ... test cases"; col. 16, lines 6-8 "the resulting tool command language command is subsequently passed to the communication interface 420").

McNeely does not disclose a software application source code, including a graphical user interface as part of the software application.

Dubovsky teaches a software application source code, stored on the computer readable medium, wherein the software application source code defines a software application under development, including a graphical user interface as part of the software application (par. [0015] "test case generation, maintenance and execution required during the development and test cycle of a GUI software project");

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply McNeely's "generalized test environment" (see e.g. col. 3, lines 53-67) to testing software application source code containing a graphical user interface as taught by Dubovsky (see e.g. [par. 0015]) because one of ordinary skill in the art would have been motivated to save developer time and resources (McNeely col. 3, lines 53-67 "the operator need only be familiar with a common script language rather then device-specific test commands"; Dubovsky par. [0016] "reduce the investment in manpower to implement, maintain and enhance automated test software") by providing a generic test scripting environment for such systems (McNeely col. 3, lines 53-67; Dubovsky par. [0007] "There are several known testing tools for debugging GUI applications").

Regarding Claims 2, 9 and 16: The rejections of claims 1, 8 and 15 are incorporated respectively; further McNeely does not explicitly disclose the software test tools stored locally on the same computer or machine.

McNeely's background teaches that "The client/server framework allows a client to be located on any system in the network, even on the same system on which the server resides" (col. 3, lines 7-10).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to store the software test tools on the same computer or machine as McNeely's "Test Tools Server" (see Fig. 3).

Regarding Claims 3, 10 and 17: The rejections of claims 1, 8 and 15 are incorporated respectively; further McNeely discloses the software test tools are stored at another computer or machine (Fig. 3).

Regarding Claims 4, 11 and 18: The rejections of claims 1, 8 and 15 are incorporated respectively; further McNeely discloses the editor or wizard provides a graphical interface to allow the user to edit or create the test case input file (col. 4, lines 30-34 "test case and test plan editor").

Regarding Claims 6, 13 and 20: The rejections of claims 1, 8 and 15 are incorporated

respectively; further McNeely discloses the test case input file is created offline and

subsequently communicated to the interpretive engine (col. 15, lines 31-34 "downloads

the test to execution engine 400").

Regarding Claims 7, 14 and 21: The rejections of claims 1, 8 and 15 are incorporated

respectively; further McNeely discloses a software test tool can be replaced with

another test software tool (col. 13, lines 47-49 "a suitable GUI tester is added via a new

package"), but does not explicitly disclose the test software tool can be removed.

McNeely teaches "the test cases are independent of the number or types of devices

under test" (col. 3, lines 56-57).

Accordingly It would have been obvious to one of ordinary skill in the art at the time the

invention was made to remove test software tools which had been replaced with new

test software tools (col. 13, lines 47-49 "a suitable GUI tester is added").

Regarding Claims 22-24: The rejections of claims 1, 8 and 15 are incorporated

respectively; further McNeely discloses, wherein the system defines a contract interface

for use as an entry point in loading the libraries corresponding to the plurality of different

software test tools (col. 11, the "package require" statements include device packages

required for the script. In this example, the device specific packages that are included

are mgts, Eagle, and Titen … The procedures access the device specific packages for

multiple devices being tested and perform the functions for each specific device"), and

wherein additional software test tools that use a different scripting language can be

dynamically plugged into the system at the entry point by defining an execution interface

of those additional software test tools to comply with the contract interface (col. 13, lines

47-49 "a suitable GUI tester is added").

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

     US 2007/0174383 to Denoix et al. discloses contract interfaces used to plug-in

modules (see e.g. par. [0010]).

     Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jason Mitchell whose telephone number is (571) 272-

3728. The examiner can normally be reached on Monday-Thursday and alternate

Fridays 7:30-5:00.

     If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bullock Lewis can be reached on (571) 272-3759. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Mitchell/
Jason Mitchell

/Lewis A. Bullock, Jr./
Supervisory Patent Examiner, Art Unit 2193
5/1/08